

## A MONOGRAPH OF THE AUSTRALIAN COLYDIIDAE.

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(Plates viii-ix; two Text-figures.)

[Read 25th August, 1937.]

The accumulation of unnamed material and the need for greater accuracy in the nomenclature make it desirable to attempt a survey of this group, a work approached with much diffidence, but rendered possible by the courteous and able help of K. G. Blair and J. G. Arrow of the British Museum, who have identified and compared with type many examples sent to them. This has been supplemented by the gift or loan of specimens that illustrate genera rare or unknown in Australian collections. We are also indebted to Mr. Womersley and the Trustees of the South Australian Museum for the loan of a large collection of this family, which includes some cotypes of Blackburn and Lea. Also the National Museum, Melbourne, the Macleay Museum and the Australian Museum, Sydney, the Queensland Museum, Brisbane, and the Council for Scientific and Industrial Research, Canberra, have all helped by the loan of material. We are also indebted to F. E. Wilson, whose specimens, being in perfect order, simplified their examination.

Previous work in this family has been of a somewhat intermittent kind. Amongst Australian authors, Blackburn is the most prolific. Two genera, *Deretaphrus* and *Bothrideres*, are especially common and widely distributed throughout Australia, under the bark of suitable Eucalyptus trees. As with other common insects, they are subject to great variations of size and colour. The many minute members of the family are much neglected except by expert collectors. The labels of the late A. M. Lea and Dr. E. W. Ferguson, and of our friends F. E. Wilson, Dr. K. K. Spence and J. Armstrong, abundantly show this amongst the many hundreds of specimens examined.

A remarkable feature is the very wide distribution of species. Species described by Sharp from Japan, by Pascoe from Malaya, by Grouvelle from Ceylon and elsewhere, occur in Australia. This probably accounts for much of the synonymy in the family. There is no evidence of this wide distribution being otherwise than natural.

*Classification of the Australian Colydiidae.*

Grouvelle included the sub-families Euxestinae and Murmidiinae in this family. The former is not included in our Monograph through lack of material and the existing doubt as to its correct family position. The latter contains no

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Note by H. J. Carter: The greater part of the systematic work of the following has been done by myself. But I am greatly indebted to E. H. Zeck for his dissections of tarsal and other structures in the smaller species; for his inimitable drawings of these and of the figures of the new species; also for much helpful advice. These things have so much added to the value and accuracy of the paper that it is right to include his name as joint author.

recorded Australian species. With these omissions the family is subdivided into two sub-families, distinguished as follows:

Insertion of the antennae hidden by the lateral border of the front . . . . . I. Colydiinae.  
 Insertion of the antennae visible . . . . . II. Ceryloninae.

I. Colydiinae. *Table of Tribes.*

1. Antennae capitate . . . . .	2
Antennae not capitate . . . . .	5
2. Anterior and post coxae close . . . . .	Synchitini
Anterior coxae distant . . . . .	3
3. First tarsal segment not longer than second . . . . .	4
First tarsal segment longer than second . . . . .	Acropini*
4. Scutellum present . . . . .	Pycnomerini
Scutellum absent (in the only Australian genus) . . . . .	Coxelini
5. Antennae 11-articulate . . . . .	6
Antennae 10-articulate (fusiform) . . . . .	Orthocerini
6. Antennae perfoliate . . . . .	Rhagoderini†

II. Ceryloninae. *Table of Tribes.*

1. Apical segment of antennae not acicular . . . . .	2
Apical segment of antennae acicular . . . . .	Cerylonini
2. Front coxae close . . . . .	Deretaphrini
Front coxae distant . . . . .	3
3. Form elongate, glabrous . . . . .	Bothriderini
Form ovate, with velvety derm . . . . .	Dastarcini

Of the sub-family Colydiinae the majority of Australian genera are included in the Synchitini and may be tabulated as follows:

*Synchitini.*

1. Antennal club 3-clavate . . . . .	2
Antennal club 2-clavate . . . . .	3
2. Anterior coxal cavities open . . . . .	<i>Sparactus</i>
Anterior coxal cavities closed . . . . .	<i>Larinotus</i>
3. Antennal apical segment well-defined . . . . .	4
Antennal apical segment very small and obscure . . . . .	12
4. Prothorax and elytra costate . . . . .	5
Prothorax and elytra not both costate . . . . .	7
5. Elytral costae regular (uninterrupted) . . . . .	6
Elytral costae irregular and interrupted . . . . .	<i>Phorminx</i> , n.g.
6. Margins of prothorax narrow, antennal sulcus ill-defined . . . . .	<i>Bitoma</i>
Margins of prothorax wide, antennal sulcus well-defined . . . . .	<i>Phormesa</i>
7. Prothorax only costate . . . . .	<i>Synagathis</i> , n.g.
Neither prothorax nor elytra costate . . . . .	8
8. Form narrow, prothorax with narrow lateral foliation . . . . .	9
Form wider, prothorax with wide lateral foliation . . . . .	10
9. Body pilose, base of prothorax without border . . . . .	<i>Neotrichus</i>
Body setulose, base of prothorax bordered . . . . .	<i>Sympanotus</i>
10. Lateral margins of prothorax more or less lobate . . . . .	<i>Ablabus</i>
Lateral margins entire . . . . .	11
11. Prothorax and elytra with parallel sides . . . . .	<i>Cebia</i>
Form ovate, prothorax with well rounded sides . . . . .	<i>Colobicus</i>
12. Tarsal formula normal 4-4-4 . . . . .	<i>Bupala</i>
Tarsal formula 3-3-3 . . . . .	<i>Pabula</i> , n.g.‡

\* The two genera placed under Acropini in the Junk Catalogue are so different as to suggest a reclassification, thus—

*Meryx*: Antennae perfoliate, all coxae close.

*Todima*: Antennae bi-clavate, all coxae distant.

† *Ocholissa* is unclassified (Incertae sedis) in Junk, but the perfoliate antennae, their insertion distant from the eyes and not retractile under the head, the head somewhat narrowed behind, and anterior coxae open, suggest inclusion under Rhagoderini.

‡ *Pabula* would seem to require a special Tribe for its reception. For the present it is sufficiently distinguished here.

The Tribe Deretaphrini includes the following genera which may be tabulated as follows:

- 1. Antennae with 11th segment a mere excrescence on the 10th, form cylindrical ..... *Oxytaemus*
- Antennae not so ..... 2
- 2. Basal segment of tarsi elongate, antennal club ovate ..... *Metopiastes*
- Basal segment of tarsi short, antennae subclavate ..... *Deretaphrus*

The two genera of the Tribe Bothriderini, *Bothrideres* and *Machlotes* Pasc., are readily distinguished by the strong transverse sulcus near the base of the prothorax, in the latter.

The two genera of the Cerylonini may be tabulated thus:

- Antennae 11-articulate, bi-clavate ..... *Philothermus*
- Antennae apparently 10-articulate, uni-clavate ..... *Cerylon*

BITOMA Herbst.

The distinction between *Bitoma* and *Phormesa* is very finely drawn by the absence or presence of an antennal sulcus and the less defined prothoracic margins of the former; but the exact constitution of the former of these features is not easy to define.\* In every insect of the group Sychitini that we have examined there is a depression between the eye and submentum in which the basal part of the antennae rests. Authors write of this sulcus as obsolete, short or long. We have not met with the first; in *Bitoma angustula* Motsch., *B. serricollis* Pasc., and *B. costata* Macl. (the last incorrectly placed, we think, under *Phormesa* in the Junk Catalogue), this depression is at its minimum. To the above three species we add three new ones, *cylindrica*, *occidentalis* and *puteolata*. *B. villosa* Lea is an *Ablabus*. *P. (B.) parva* Blkb. is either a *Phormesa* or requires a separate genus (see below).

Table of species of Bitoma.

- 1. Prothorax longer than wide ..... 2
- Prothorax not so ..... 3
- 2. Pronotal costae separate and parallel ..... *occidentalis*, n. sp.
- Two inner costae partly connected ..... *cylindrica*, n. sp.
- 3. Pronotum deeply excavate along middle ..... *puteolata*, n. sp.
- Pronotum not so ..... 4
- 4. Margins of prothorax and elytra sharply serrate ..... *serricollis* Pasc.
- Margins of prothorax and elytra finely crenate ..... 5
- 5. Form depressed (*Phormesa*-like) ..... *costata* Macl.
- Form subcylindric (*Xuthia*-like) ..... 6
- 6. Pronotal costae bent outward (Inner costae bifurcate at apex) .....
- Pronotal costae bent inwards (Inner costae bifurcate at base) ..... *siccana* Pasc.

Synonymy.—*B. serricollis* Pasc. = *lineatocollis* Blkb.

    ? *B. angustula* Motsch. = *parallela* Shrp.

*B. siccana* Pasc. = *rufina* Pasc. = *maura* Pasc.

The briefly described *angustula* Motsch. is suggested by Grouvelle as synonymous with *parallela* Shrp., but the type is apparently lost.

BITOMA CYLINDRICA, n. sp. Plate viii, fig. 4.

Elongate, parallel; head and pronotum nitid black, elytra, appendages and underside reddish.

\* See also Grouvelle's note (*Trans. Ent. Soc. Lond.*, 1918, p. 10) on *Ditoma crenata* Herbst. "type du genre *Ditoma*" . . . "en réalité cet insecte a des rudiments de sillons antennaires qui permettent aux antennes de venir s'étendre dessous la tête pendant la position de repos".

*Head* subquadrate, with raised lateral edges; finely punctate, antennae having two basal segments stout and cylindric, 3-9 moniliform and closely set, 10-11 forming a compact oval club. *Prothorax* convex, parallel, longer than wide, apex and base bisinuate, anterior angles well advanced and acute, posterior angles produced but blunted; surface consists of 10 carinate ridges, the two interior curved and lyriform, produced along apical and basal border to meet the 4th, subplanate on apical region, here bifurcating to form the 2nd parallel carina, these not extending to base or apex, 4th and 5th sharply carinate, forming a concave lateral edge; the 3rd sinuous and less conspicuous in the wide sulcus between the 2nd and 4th ridges; the raised area formed by the junction of 1st and 2nd sparsely punctate. *Scutellum* oval with a wide triangular excavation behind it. *Elytra* convex, cylindric, seriate-punctate, the punctures close, large and square, separated by cancellate ridges, the alternate intervals raised, forming carinae at base and on apical declivity. *Head* with a minimum of antennal grooves, *palpi* subulate at apex. *Prosternum* transversely striolate, *metasternum* sparsely, *abdomen* more closely punctate, the punctures on abdomen diminishing in size and density towards apex, abdominal segments subequal. *Dim.*— $3\frac{1}{2}$ -5 × 1.3 mm. (approx.).

*Hab.*—Queensland National Park (H.J.C., also in Queensland Mus.), Cairns (A. M. Lea), Dorrigo (Heron), Illawarra (H. Cox and J. J. Walker), Richmond R. (A. M. Lea).

Eighteen examples, varying in size, have been examined that belong to Pascoe's *Xuthia* group of *Bitoma*. Holotype in Coll. Carter.

BITOMA OCCIDENTALIS, n. sp. Plate viii, fig. 1.

Elongate, subcylindric, chocolate-brown; antennae and legs red.

*Head* subquadrate, clypeus truncate, diagonally impressed at front corners; frontal surface with flattish pustules, sides raised, eyes moderately prominent; antennae: 1 and 2 stout, 3-9 small and close, 10-11 forming a large, loose club. *Prothorax* longer than wide, as wide as head at eyes; parallel, apex with discal part carinate and subtruncate, front angles subacute, lightly advanced, hind angles subrectangular, lateral margins convex between two narrow carinae, base with discal part carinate and lightly produced backward; disk with six subparallel and lightly raised costae (besides the two lateral), the 1st and 3rd (from middle) continuous with apical and basal carinae, the 2nd not meeting either, the two innermost lightly diverging in front and behind, interspaces irregularly rugose-pustulose. *Scutellum* oval; a sutural excavation behind it. *Elytra* parallel, scarcely wider than prothorax, each with 4 costae, the 1st (sutural) meeting 2nd at apex, 3rd and 4th not extending to apex; between each pair of costae a double row of large square punctures; the sutural costae lightly diverging behind scutellum, leaving room for a short extra row of punctures. No defined antennal sulcus, but antennae when at rest partly contained in hollow inside eye. *Dim.*—4 mm. long.

*Hab.*—Western Australia: Mount Barker (A. M. Lea); Tasmania: Launceston (British Museum).

Two examples, in the South Australian Museum and the British Museum respectively, show an ally of *B. cylindrica* in form, but differ in colour and in the less deeply sculptured pronotum, the costae being clearly separated and parallel, besides other differences noted above. Holotype in S. Australian Museum.

BITOMA PUTEOLATA, n. sp. Plate viii, fig. 12.

Short, oblong, castaneous; pronotal costae edged with black.

*Head* subquadrate and concave, with a triangular clypeal area raised, the lateral margins sharply carinate, surface finely granulose; antennae: basal segment hidden, 2 and 3 longer than 4, 4-8 close, 9 wider than 8, 10-11 forming a stout club, 10 lunate, 11 round. *Prothorax*: apex strongly sinuate, the medial discal margin with a concavity, the front angles lightly advanced and subacute, base with medial lobe forming a short rectangle behind the hind angles; widest in front, sides feebly arcuate, narrowed from apex to base, foliate margins subhorizontal, below the plane of disk, extreme margins crenulate; disk quadricostate, the two interior costae sinuately widened at middle, narrowed at base and apex, two exterior costae straight, rounded in front to meet interior costae, at base the interior costae turn outwards to meet the exterior; medial area deeply excavated, with a double row of rugose punctures on each side of excavation, the intercostal spaces and foliate margins also rugose-punctate. *Elytra* wider than prothorax at base, sides subparallel, feebly widened behind middle; each with three sharp costae besides the less raised sutural margins; interspaces with a double row of large, round punctures. *Prosternum* densely punctate; metasternum finely setose, abdomen minutely granulose-setose. *Dim.*— $2\frac{1}{2}$  mm. long.

*Hab.*—Queensland National Park, MacPherson Range.

Two examples are remarkable for the deeply pitted pronotum. Holotype in the Queensland Museum.

SYNAGATHIS, nov. gen. Sychitinerum.

Oblong, moderately convex; eyes large and prominent, palpi simple, pointed at apex, mentum transverse; antennae stout, 11-articulate, biclavate, 10th and 11th segments large and loosely connected. Tibiae, triangularly enlarged at apex, with small apical spine. Antennal sulcus scarcely defined. All coxae approximate, post intercoxal process triangular. Prothorax with lateral margins crenulate, disk formed by two rounded costae enclosing two dumb-bell-like impressions. Elytra parallel, striate-punctate.

A genus near *Bitoma*.

SYNAGATHIS KAURICOLA, n. sp. Plate viii, fig. 5.

Oblong; prothorax lightly, elytra more strongly convex, above and below red, glabrous and nitid, cavities of pronotum partly black.

*Head* subquadrate, clypeus semicircular, surface uneven, with large, irregularly-placed punctures; sides raised behind eyes and hollowed within the lateral ridges; antennae stout, 1 hidden, 2-3 rather tumid, 2 larger than 3, 4-9 moniliform, close, lightly, successively enlarged, 10-11 forming a loose club, 10 wider than 11. *Prothorax* subquadrate, subtruncate at apex and base, sides, in general, nearly straight (in one example the right-hand side is irregularly incurved near the middle), margins regularly crenulate, anterior angles rounded off, posterior subrectangular a little blunted at tip; disk on higher plane than margins, with rounded, rib-like lateral costae, rounded in front, produced behind beyond margins, with blunted rectangular hind-angles; medial area occupied by two dumb-bell-like impressions, with deep arcuate cavities, a small, granulose ridge within the sub-lateral cavities connected with lateral costae. *Scutellum* globular; a triangular area hollowed out behind it. *Elytra* little wider than prothorax, sides parallel, apices conjointly rounded; striate-punctate, a double row of deep punctures between subcostate intervals, four on each, including raised suture. *Underside* lightly, sparsely punctate. *Dim.*—3 mm. long.

*Hab.*—N. Queensland (C. French Junr.).

Three examples from the South Australian Museum bear a label "Under bark of Kauri logs from Cairns, at Melbourne. C.F.Jr." A second label, in the handwriting of the late A. M. Lea, states: "Queensland. C. French Jr. obtained in Q. logs at Melbourne". The Queensland Kauri (*Agathis robusta*) suggests the generic name. Holotype in the South Australian Museum.

LARINOTUS, n. gen. Sychitinerorum.

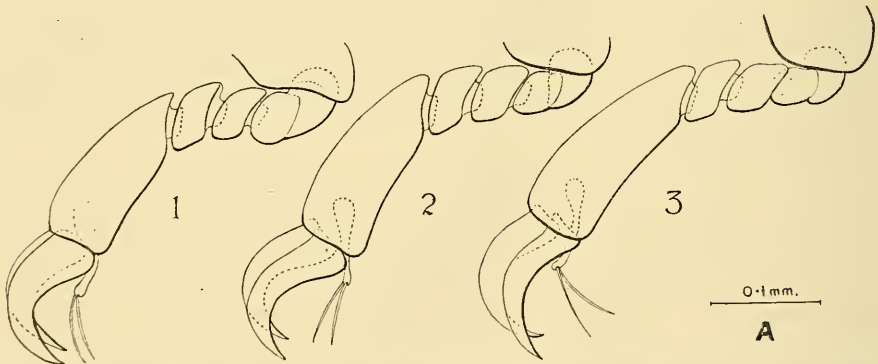
Head wide; antennae apparently 10-11 segmented, triclavate; antennal sulci distinct. Body short, stout, oblong, strongly convex laterally, pilose; all coxae moderately close; anterior acetabula closed.

An anomalous genus, in form suggestive of *Cicones* and its allies, but with wider head and different antennae.

LARINOTUS UMBILICATUS, n. sp. Plate viii, fig. 12; Text-fig. A.

Oblong, transversely convex; subnitid brown to black above, nitid black beneath, palpi, antennae and tarsi red; strongly pilose.

*Head* subvertical, clothed with rough derm, setose, clypeus subtruncate, eyes large and prominent; antennae: basal segment very stout, 2 smaller, oval, 3-7 small, close and round, 8-10 forming a robust, compact club. *Prothorax* strongly transverse, medial lobe produced over head, anterior angles obtuse, not prominent; widest behind middle, sides lightly rounded, foliate margins obliquely depressed, border crenulate, disk closely covered with rounded pustules, each bearing a long, upright hair, some coarser hair on front border. *Scutellum* transverse, oval, pustuliform. *Elytra* wider than prothorax at base, sides sub-parallel, whole



Text-figure A.—*Larinotus umbilicatus*: 1st, 2nd and 3rd tarsus drawn from micro-slide. Details of claw attachments and setae omitted.

surface with longitudinal series of umbilicate pustules, with signs of striae connecting these; each pustule with a small puncture bearing a pale, upright hair; those on medial region sparse or abraded, longer and more evident laterally. Anterior coxal cavities closed behind, mandibles bifid, maxillary palpi with last segment ovate-acuminate; antennal sulcus short. *Prosternum* rugose-foveate-punctate; anterior coxae widely separate; mesosternum and episterna with coarse punctures; metasternum with deep oval sulcus in middle; post coxae rather close, its process rhomboidal, abdomen with scratch-like markings, clad with long hairs; tibiae with short apical spur, tarsi (post) with first 3 segments short and subequal.

*Hab.*—N. S. Wales: Dorrigo (W. Heron). Two examples. We can not make out more than 10 segments to the antennae. Its 3-segmented club, short tibial spurs and other details suggest its position. Holotype in Coll. Carter.

## SPARACTUS ER.

*Illestus* Pasc. (vide Blackb., *Trans. Roy. Soc. S. Aust.*, 1902, p. 315).

The Australian species are singularly varied in size and form, *elongatus* Blkb. being more than twice the size of *interruptus* Er., while *pustulosus* Blkb. might well be generically separated. Lacordaire's tabulation of the genera would place *elongatus* under *Pristoderus* Hope, a genus now placed as a synonym of *Ulonotus* and sufficiently distinguished from *Sparactus* by the form of the head. Two new species are added below to the five recorded by Junk. The following will help to separate the species:

*Sparactus* Er.

- |  |                                |
|--|--------------------------------|
| 1. Margins of prothorax divided (lobate) .....           | <i>pustulosus</i> Blkb.        |
| Margins of prothorax not divided .....                   | 2                              |
| 2. Size large (5-7 mm. long) .....                       | <i>elongatus</i> Blkb.         |
| Size smaller .....                                       | 3                              |
| 3. Elytra with costate intervals .....                   | 4                              |
| Elytra with nodulose intervals .....                     | 5                              |
| 4. Each elytron with 3 costae .....                      | <i>productus</i> Reitt.        |
| Each elytron with 2 costae and a row of granules .....   | <i>queenslandicus</i> , n. sp. |
| 5. Margins of prothorax much widened at apex .....       | 6                              |
| Margins of prothorax little widened at apex .....        | <i>proximus</i> Blkb.          |
| 6. Elytra lightly convex, punctate between nodules ..... | <i>interruptus</i> Er.         |
| Elytra strongly convex, granulose between nodules .....  | <i>leai</i> , n. sp.           |

Synonymy: *S. interruptus* Er. = *grouvellei* Reitt.

*S. productus* Reitt. = *costatus* Blkb.

## SPARACTUS LEAI, n. sp. Plate viii, fig. 6.

Ovate; dark brown above, appendages and underside red.

*Head* subquadrate, slightly widened in front of eyes, and with a pronounced latero-basal tubercle above the eyes, surface granulose, antennae as in the common *S. interruptus* Er. *Prothorax* convex, widest in front, the apex strongly bisinuate, acutely and obliquely produced at the angles, also produced strongly in middle, sides arcuately narrowed and concave to base and rather irregularly crenulated by blunt pustules; hind angles acute and pointing outward, base strongly bisinuate, the medial lobe widely arched; disk strongly raised by ridges forming four sides of a hexagon, with an elongate depression at middle, narrowed in front to form a wide open sulcus and meeting near base, the ridges here again bifurcating triangularly to base; whole surface strongly granulose. *Elytra* convex, much wider than prothorax at base, shoulders rather square, slightly widened behind middle, each with rows of elongate nodules, the first row containing three, of equal length, the basal one extending to front margin; the second row with 3 or 4 shorter nodules, the third row, extending from the shoulders, forming more or less a subcontinuous costa, the suture little raised. Between the rows are two lines of seriate granules, alternating with depressions simulating punctures. Pro- and meta-sternum also finely granulose and very sparsely pubescent. *Dim.*—3 mm. long.

*Hab.*—North Queensland: Cairns district (A. M. Lea).

Several examples, taken by the late eminent entomologist, are in the collection of Colydiidae sent from the South Australian Museum. The species is of the *S. interruptus* type, but differs in (1) its much more convex form, (2) the more defined sculpture of prothorax, (3) the pronounced nodule above eyes, (4) different elytral sculpture. Holotype, marked on card of series of 6, in South Australian Museum.

[*N.B.*—*S. interruptus* Er., described as from Tasmania, occurs commonly in all the States on the mainland of Australia.—H.J.C.]

## SPARACTUS QUEENSLANDICUS, n. sp. Plate viii, fig. 2.

Opaque; brownish-black above, underside and appendages red.

*Head* quadrate, sides with raised parallel ridges, surface finely pustulose-punctate, antennae stout, club formed by two transverse cup-shaped segments and a large oval terminal one. *Prothorax* widest at front, anterior angles lightly produced, subacute, sides arcuately narrower from apex to base; base feebly bisinuate, hind angles widely obtuse, foliate margins serrulate; disk with a rounded (sub-rhomboidal) depression at middle, bounded by obscure ridges, these narrowed to meet apex and base in subparallel lines, the basal pair narrower than apical. *Elytra* seriate-punctate, the seriate punctures large, round and regular, with three equidistant intervals slightly raised above the rest, at extreme base becoming short costae, also a little prominent on apical declivity, the two intervals nearest suture formed by rows of granules. Prosternum transversely rugose, the rest of underside finely granulose; prosternum with a small process jutting beyond the coxae. *Dim.*—4-5 × 1½-2 mm.

*Hab.*—Queensland: Yeppoon (H. J. Carter).

Two examples taken under bark, in October, 1924 (H.J.C.). By Lacordaire's table the species should be a *Pristoderus*, but it is, we consider, congeneric with *S. elongatus* Blkb. and *S. proximus* Blkb. Holotype in Coll. Carter.

## PHORMESA Pasc.

In this genus the antennal sulcus is well defined. Thus in *P. prolata* Pasc. it is emphasized by a ridge which follows its internal border for some distance. In repose the antennae lie along this, the apical club being folded horizontally at base of head.

[I think I know all the recorded species from Australia (except *P. thoracica* Blkb.), together with two others, *prolata* Pasc. and *lunaris* Pasc. that were described from Malaya or New Guinea.—H.J.C.]

The only species that corresponds, in dimensions, to *thoracica* amongst Australian species, is *prolata* Pasc., but this is more strongly sculptured than *torrida* Blkb., with the posterior angle of prothorax acute, both characters inconsistent with Blackburn's notes. We are thus compelled to omit *P. thoracica* from our table.

*P. prolata* Pasc. is very common in the Cairns district. [I have seen many examples in the various collections.—H.J.C.]

*P. lunaris* Pasc.—A single example from Cairns is hypothetically determined for a species, in the South Australian Museum, that is of a pale ferruginous colour, of wide form, with discal costae little developed and an undefined pattern on the elytra that may be the "semi-lunar band" of the author.

The distinction between *Microprius* Grouv. and *Phormesa* Pasc. seems so tenuous as to require justification. We have not been able to find this distinction classified. Grouvelle does not include *Phormesa* among the Colydiidae of the Indian Region, while Sharp does not include it among the Colydiidae of Ceylon or Japan; yet he erected a new genus *Trionus* which, by figure and description, appears inseparable from *Phormesa*, but is placed under *Microprius* in the Junk Catalogue. Three examples from Cairns, in the material before us, that correspond with the excellent figure of *Trionus opacus* Shrp. are included in the following table, together with two new species.

*Table of Phormesa Pasc.*

1. Upper surface variegated or maculate .....	2
Upper surface concolorous .....	9
2. Elytral markings more or less fasciate .....	3
Elytral markings with maculae .....	5



3. Sides of prothorax well rounded, form wide ..... *lunaris* Pasc.  
Sides of prothorax nearly straight, form narrow ..... 4
4. Elytra largely occupied by two red fasciae ..... *carpentariae* Blkb.  
Elytra chiefly dark, with vague, transverse maculae ..... *torrida* Blkb.
5. Head with lateral lobe ..... 6  
Head without such lobe ..... 7
6. Elytral apices produced (sublobate) ..... *caudata*, n. sp.  
Elytral apices normal ..... *parva* Blkb.
7. Prothorax widest at base, thence arcuately narrowed to apex ..... *prolata* Pasc.  
Sides of prothorax nearly straight ..... 8
8. Prothorax widest at apex ..... *hilaris* Blkb.  
Prothorax widest at middle ..... *notata*, n. sp.
9. Pronotum with four strong costae, with other elevations ..... 10  
Pronotum with two moderate costae and rudiments of two others, without other elevations ..... *epitheca* Oll.
10. Sides of prothorax rounded, elytral intervals granulose ..... *grouvellei* Blkb.  
Sides of prothorax nearly straight, elytral intervals cancellate-punctate .....  
..... (*Trionus*) *opacus* (?) Shrp.  
Synonymy: ? *Phormesa* (*Holopleuridia*) *imperialis* Reitt. = *P. torrida* Blkb.  
*P. prolata* Pasc. = *P. heros* Pasc. = *P. varia* Pasc.

PHORMESA (?) CAUDATA, n. sp. Plate viii, fig. 8.

Narrowly oblong, attenuate at apex; subnitid brownish-black, raised parts piceous, antennae and legs, also margins of thorax, red, elytra with pale spots.

*Head* elongate-subrectangular, asperate from its scaly hirsute clothing, lateral margins raised, eyes prominent, a lobate process protruding beyond hind half of eyes; antennae: basal segment hidden, 2 thicker than 3; 3-8 small, closely set, 9 rather larger than 8, 10-11 forming a club, 11 much smaller than 10. *Prothorax* subquadrate, discal area roundly produced and raised at apex, merely produced at base; anterior angles lightly advanced, rounded at tips, the posterior sharply rectangular. The horizontal foliate margins on a lower plane than disk, and slightly enlarged in front, its margins nearly straight, and sharply serrated. Disk with costate lines forming an oval 'plaque' from apex to basal fourth. From here two short costae form a basal triangle, the exterior margin of disk also marked by crenulate costae, more or less parallel to the foliate margins, but narrowed and rounded at apex. *Elytra* slightly wider than prothorax, narrowed, sublobate and separately rounded at apex; each with four strong costae, besides the less raised sutural margins, the latter diverging to form a narrow triangle near scutellum; the costae crenulated by deeply impressed punctures on each side, the exterior costa forming a sharply serrated margin, depressed intervals with a variable number of testaceous spots (in the most clearly marked example two on the sutural, four on each of the two succeeding intervals). *Dim.*—2½-3 mm. long.

*Hab.*—Adelaide (Sharp Coll.), also Pascoe Coll. without locality label.

Four examples examined are among the British Museum examples sent. It is clearly allied to *P. (Bitoma) parva* Blkb. by antennal structure and the lobate process at base of eye, but also clearly separated from that species by the curious apical structure, narrow form, and spotted elytra. There is a distinct antennal sulcus. Holotype in the British Museum.

*N.B.*—The distinction between *Microprius*, *Trionus* and *Phormesa* seems to be very finely drawn. *Trionus* has been already merged with *Microprius* in the Junk Catalogue.

PHORMESA NOTATA, n. sp. Plate viii, fig. 11.

Oblong-ovate; dark brown, clypeus, foliate margins of prothorax and appendages red. Elytra with testaceous spots.

*Head* flat and subquadrate, minutely granulose and sparsely pubescent; antennae: segments 1 and 2 wide, evident from above, 3-9 moniliform and close, 9 slightly larger than 8, 10 and 11 forming a stout club. *Prothorax* strongly transverse, apex bisinuate, front angles advanced and acute, the medial part well advanced, sides nearly straight, arcuately narrowed to both angles, posterior angle obtuse, base lightly bisinuate; foliate margins rather wide, extreme border minutely crenulate, disk lightly convex with a medial round, concave lozenge, bounded by vaguely raised lines, open in front and behind, the lines in front parallel, those behind approximate and parallel for a short way, then diverging to the base, the hinder lines forming two smaller loops at the base of the medial lozenge; sides of disk limited by sinuate costae, having a wide re-entrant angle at the middle; general surface asperate and subopaque, very minutely granulose. *Elytra* slightly wider than prothorax, each with the suture and three other intervals costate, the sutural costa divaricate behind the scutellum; between the costae two rows of punctures, having two elongate maculae, somewhat variable in number but placed on the intercostal spaces as follows (in a well-marked example): on subsutural interval one at middle, another near apex; on 2nd interval one on apical and basal third respectively; on 3rd interval one in advance of those on 2nd interval; on 4th interval one slightly behind those on 3rd. Under-side opaque and almost impunctate, a few small punctures on prosternum. *Dim.*—4-5 mm. long.

*Hab.*—N.S.W.: Kindee (H. J. Carter), Sydney (Dr. K. K. Spence), Richmond R. (in Brit. Mus.), Bogan R. (J. Armstrong); Queensland: Cairns (A. M. Lea), Goodna (F. E. Wilson); N.-W. Aust. (in National Museum).

Nineteen examples before us are allies of *P. torrida* Blkb., from which it differs by its much less strongly sculptured thorax and elytra, with a somewhat similar pattern; also, in *torrida* the red marks on elytra are subfasciate. *P. prolata* Pasc. is a larger species with strongly raised ridges and vaguely maculate elytra; *P. hilaris* Blkb. is a narrower species in which the maculae are round and red and the pronotum without a defined pattern. Holotype in Coll. Carter.

*Var.*—The single example from N.-W. Aust. is almost black, more nitid, and with fewer maculae than in other examples, but is clearly conspecific.

#### PHORMINX, nov. gen. Synchronorum.

Oblong-obovate; surface asperate and opaque, with thick derm, scale-like hairs and granules. Eyes not prominent. Antennae 11-articulate, the two apical segments forming a large, compact club. Antennal sulcus well defined. All coxae approximate, legs stout, tibiae rounded, not greatly enlarged at apex, without apical spur. Prothorax very convex, foliate margins irregularly serrate, disk with two irregular, longitudinal ridges. Elytra somewhat violin-shaped, with numerous costae irregular in length.

A genus perhaps nearest *Phormesa*, with a unique sculpture.

#### PHORMINX LYRATA, n. sp. Plate viii, fig. 9.

Oblong-obovate; opaque chocolate-brown; antennae, tarsi, margins of prothorax and the depressed parts of elytra red.

*Head* subquadrate, clypeus subtruncate; surface granulose; antennal segments 1-2 stout (1 unseen from above), 3-9 subequal, 10-11 forming a stout club. *Prothorax* convex, especially towards apex. Apex moderately bisinuate, angles slightly advanced and directed diagonally outward, base rather strongly produced backward in the middle, the obtuse posterior angles considerably in advance of

the medial lobe; sides subparallel, deeply, irregularly serrated, with about 5 or 6 teeth of variable width; foliate margins moderately wide and horizontal; disk uneven and convex, medial area with two confusedly arcuate ridges with elongate depression between them on apical half, approximate and parallel on basal third, again bifurcating to form a triangle at base; surface irregularly granulose. *Elytra* somewhat compressed at middle, widened at shoulders and, more strongly so, behind; with 6 short costae on basal fourth, the exterior one following the squarish humeral curve, the interior one extending from base to basal fourth and strongly raised on its hinder part; between the two former a short, less evident costa near base; two arcuate costae near the exterior of convex portion of elytra, extending from behind the basal costae and terminating in a prominent ridge on apical declivity; another pair of short, prominent ridges on apical declivity, half-way between suture and exterior ridge; suture lightly raised; general surface with series of large punctures separated by transverse rugosities with some granules here and there. Underside scabrous and impunctate; abdominal segments of equal width. *Dim.*—3·8-5 mm. long.

*Hab.*—N.S.W.: Williams River (Lea and Wilson) in Coll. Wilson, Dalmorton and Wollongong (A. M. Lea) in S.A. Mus., Raymond Terrace (J. Armstrong); Queensland: Tambourine Mt., Nanango, and Maleny (H. Hacker).

Fourteen examples examined deserve generic distinction by their unusual sculpture. Holotype in Coll. Wilson (his specimens being in perfect condition).

BUPALA AUSTRALIS, n. sp. Plate viii, fig. 3.

Oblong, convex; reddish-brown above, with short, white, scaly bristles, underside darker.

*Head* subquadrate, subvertically placed, eyes large, rather prominent, surface dotted with fine, white scales; antennae 10-articulate, two basal segments stout, 3-8 equal and close, 9 slightly larger than 8, 10 forming a large round club. *Prothorax* widest at base, thence lightly narrowed to apex; discal part of apex produced over head, the angles emarginate, subacute (blunt at tips), base arcuately produced backward, post angles obtuse and slightly rounded, sides nearly straight, margins subfoliate, the foliation only evident near front, extreme border finely serrate and ciliate; disk convex, with a feeble depression near middle, surface everywhere with short, pale, scaly bristles. *Elytra* of same width as prothorax, with about 10 rows of ill-defined punctures, separated by narrow lines of closely set, scaly bristles (somewhat as in *Colobicus parilis* Pasc., but more uniform). Underside subglabrous, opaque; prosternum asperate, margins with fine, transverse rugae, rest of underside smooth. Tibiae with short apical spines. Penultimate segment of abdomen about half as long as each of the preceding. *Dim.*—4 × 1·5 mm.

*Hab.*—Queensland: Tambourine Mt. (H. Pottinger).

There is no evidence of an 11th antennal segment. Holotype in the Queensland Museum.

BUPALA FASCIATA, n. sp. Plate ix, fig. 13.

Shortly oblong-ovate; head, except clypeus, and pronotum dull black. *Elytra* black with shoulder spot, postmedial fascia and an interrupted preapical fascia red, clypeus, underside and appendages red; upper surface clothed with white scaly bristles.

*Head* subquadrate, sides straight, surface with short white recumbent scale-like hair; antennae short, basal segment invisible from above, 10-11 of the typical form (i.e., 11th inconspicuous). *Prothorax* transverse, wider than usual, base roundly advanced in middle, all angles rounded off, sides nearly straight, the

marginal serrulations partly concealed by scaly hairs; base a little produced backwards; disk asperate, without evident punctures, subrecumbent hairs chiefly obvious on apical half. *Elytra* convex, ovate, slightly wider than prothorax at base; seriate-punctate, the seriate punctures large, the series separated by very narrowly raised lines on which are scale-like hairs, the scaly clothing more upright than on head and pronotum. *Dim.*—2 mm. long.

*Hab.*—N. S. Wales: Bogan River (J. Armstrong).

We have seen only one example of this little species. It is relatively wider than *dentata* Blkb., with an unmistakable colour pattern that should render it easy to recognize. Holotype in Coll. Carter.

*BUPALA VARIEGATA*, n. sp. Plate viii, fig. 10.

Shortly oblong-ovate; head and pronotum piceous, elytra piceous, largely variegated with testaceous; margins of prothorax, underside and appendages red; upper surface with white bristly hairs, more or less recumbent on head and thorax, forming series on elytral intervals.

*Head* subquadrate, clypeus rounded, eyes prominent, antennae short, basal segment unseen from above, 2 wider than 3, 3-9 small and close, 10-11 of typical form, 11 large and round. *Prothorax* transverse, base bisinuate, the medial area and anterior angles lightly advanced, the latter subacute; base widely produced backwards, posterior angles subrectangular, sides nearly straight, marginal serrulations emphasized by bristles, foliate margins scarcely defined; disk very lightly convex, scabrous and thickly clothed with bristles, save on a few denuded areas, as on two round depressions near base. *Elytra* slightly wider than prothorax at base, widest behind middle; seriate-punctate, the seriate punctures large and round, the series separated by thin lines bearing subrecumbent white scaly bristles. The testaceous markings occupying a considerable area, consisting of a large medial subquadrate patch sending off four oblique branches from its corners, to the shoulders and the apical declivity respectively and an arcuate subapical fascia. *Dim.*—2 mm. long.

*Hab.*—N. Queensland: Cairns district (A. M. Lea).

A single example in the South Australian Museum is similar in form to *B. fasciata*, but is quite distinctively patterned as above. Holotype in South Australian Museum.

The three Australian species of *Bupala* may be distinguished as follows:

1. Concolorous ..... *australis*, n. sp.  
More or less variegated ..... 2
2. Black; elytral fasciae and humeral spot red ..... *fasciata*, n. sp.  
Piceous; elytra widely variegated with testaceous ..... *variegata*, n. sp.

We do not know *B. pullata* Pasc. from Saylee, or *B. elongata* Grouv. from Sumatra.

*Note.*—The question of the generic distinction of *Bupala* from *Synchita* needs consideration, but in the absence of material of this Euro-po-American group its discussion cannot be undertaken here.

*Bupala perforata* Blkb. = *B. dentata* Blkb. (Pl. ix, fig. 20; Text-fig. B).—This species cannot be retained in this genus, having the tarsal formula 3-3-3. Both were described from Adelaide and the same dimensions were given for both. Mr. Blair has taken much trouble in comparing examples with the types, which have been placed in the British Museum as synonymous. He writes: "though *dentata* is smaller, with the hairs of the elytra a little longer and the thorax slightly sinuate at the sides, I do not regard them as specifically distinct". We now propose the generic name *Pabula* for this. Since the Colydiidae already contain

tri-tarsal forms (e.g., *Langelandia* and the New Zealand genus *Lithostygnus*), we consider that it is still a member of this family, the cephalic and antennal structure being obviously Colydiid.

PABULA, nov. gen. Sychitinerum (?).

Tarsal formula 3-3-3. Other distinctions from *Bupalpa* Pasc.: (1) Head with postocular tooth, as noted by Blackburn in *B. dentata* only; (2) longer and more slender antennae; (3) narrower form, the prothorax widened at apex; (4) elytra with large, round, seriate punctures; sparsely pubescent.

*Bupalpa bovilli* Blkb.—This also must be included under *Pabula*, since the tarsi are also 3-3-3. Mr. Blair has kindly sent an example from Port Darwin, compared with type. This was very dirty but, when cleaned, it showed an extremely close



Text-fig. B.—*Pabula dentata*: 1st, 2nd and 3rd tarsus drawn from micro-slide. Details of claw attachments and setae omitted.

likeness to *perforata* [so close indeed that Zeck stated that he would be unable to bring out any distinction in a drawing, except the absence of the small tooth behind the eye]. There is, however, a small pustule very close to the base. We note, also, slight differences in sculpture, the Port Darwin insect having the pustules of pronotum and of elytral intervals more obvious than the punctures, the reverse being the case in *perforata*. Until more material is available, *bovilli* may be considered as specifically distinct, as follows:

- Head with small lateral tooth at base of eye .....
- ..... *perforata* Blkb.; *dentata* Blkb. (Pl. ix, fig. 20)
- Head without lateral tooth .....
- ..... *bovilli* Blkb.

CEBIA Pasc.

We have not seen an authoritatively named example of this genus. A comparatively common species of wide distribution in Eastern Australia seems to correspond with the description of *C. scabrosa* Reitt. from Cape York. Dr. Walther Horn has very kindly attempted to track the elusive type of this, but so far in vain. It is not in the Stettin Museum or Berlin Museum. Another species from New Guinea, in the latter Museum, may be *C. rugosa* Pasc. The three species described here may be tabulated as follows:

- 1. Colour black, elytra with red pattern .....
- Colour fuscous .....
- ..... *rufo-notata*, n. sp. 2
- 2. Elytra with about 10 subseriate tumuli .....
- Elytra subuniformly granulose .....
- ..... *tumulosa*, n. sp. *communis*, n. sp.

*Eba cerylonoides* Pasc. = *Palorus exilis* Mars. (Tenebrionidae) = *P. minor* Waterh. (fide K. G. Blair).

*Pseudeba novica* Blkb. = *Palorus eutermiphilus* Lea (Tenebrionidae).—A cotype of *Pseudeba novica* Blkb. from the South Australian Museum exactly corresponds with a cotype of *Palorus eutermiphilus* Lea in Coll. Carter. (Curiously we had noted this synonymy before receiving Mr. Blair's note on *Eba*).

CEBIA COMMUNIS, n. sp.

Narrowly oblong; variably fuscous (often with reddish patches on the elytra), antennae and legs red.

*Head* subquadrate, granulose, clypeus arcuate, eyes not prominent, terminal segments of palpi oval; antennae: basal segment hidden from above, 1-2 wide, 3 longer than 4, 4-8 subequal, 9 larger than 8, 10-11 forming an abruptly widened club. *Prothorax*: base arcuately advanced in middle, anterior angles acutely produced, sides nearly straight, with a narrow foliation, widening in front, strongly fringed at border with scaly bristles, base lightly produced backward in middle, hind angles subrectangular, disk subdepressed, variably canaliculate, in general medial line lightly impressed throughout; rather closely scalose-granulose with pale, scaly bristles. *Elytra* of same width as prothorax at base, subparallel, striate-punctate, the punctures almost hidden by granulose, bristly clothing of the lightly-raised intervals, the coarser granules near suture giving the appearance of transverse rugae. Under-surface closely granulose, tibiae not evidently spined at apex. *Dim.*—3-5 mm. long.

*Hab.*—Eastern Australia, from N. Queensland to South Australia. Found in nearly all collections; 52 examples have been examined; Cairns (Lea), Brisbane (Hacker), Pine Mt. (Aust. Mus.), Tambourine Mt. (Lea), Clarence River (Lea), Wahroonga (Carter and Spence), Sydney (Lea), Illawarra (Carter), Victoria (Wilson and Blackburn), S. Australia (Macleay Mus.).

At first diagnosed as *Cebia scabrosa* Reitt. (described from "Cap York"), but certain discrepancies suggest distinction: (a) Absence of reference to strongly granulose prothorax; (b) "elytris . . . interstitiis angustis, subrugosis"; (c) "humeris lateribusque indeterminate dilutioribus"; (d) locality. With regard to (b) we have noted above "the appearance of transverse rugae". With regard to (c) we have noted "the occurrence of red patches". The wide distribution of the species discounts the value of locality. Thus there is an element of doubt, only to be cleared by comparison with type. Unfortunately it has been difficult to find the whereabouts of this. Our friend Dr. Horn writes that the type is not in the Stettin Museum or the Berlin Museum, "Where the type might be now is very doubtful as Reitter . . . sold his collections a dozen times".

CEBIA TUMULOSA, n. sp. Plate ix, fig. 16.

Oblong, convex; chocolate-brown, antennae, legs and oral organs red.

*Head* granulose and scabrous with scaly hair, clypeus subtruncate, sides very lightly raised and widened in front of eyes, these evident from above, medial region divided from the sublobate sides by sulci; antennae with two basal segments incrassate, 3-9 closely set, submoniliform, 10-11 forming a stout compact club. *Prothorax*: apex and base strongly bisinuate, both arcuately extended in the middle, front angles well advanced and acute, sides nearly straight, their extreme border fringed with scales, foliate margins continuous with and scarcely distinguished from disk; hind angles subrectangular, a little blunt at tips; disk everywhere scabrous and covered with bristly scaly clothing; medial line a variably wide and deep depression, not extending to basal or apical border, these both

defined by rather deep sulci. *Scutellum* triangular. *Elytra* of same width as prothorax, everywhere margined, like prothorax, with bristly scales, surface scabrous and uneven, through the symmetrically placed, low tumuli, sometimes ill-defined, but in general consisting of about ten, of which two are sutural, the others more or less in two rows, surface also striate-punctate where discernible beneath clothing. *Underside* finely granulose, legs also fringed with fine scales, tibiae with short terminal spine, basal tarsi short. *Dim.*— $3\frac{1}{2}$ –4 mm. long.

*Hab.*—Victoria: Millgrove and Warburton (F. E. Wilson), Fernshaw and Dandenong Ranges (in Nat. Mus.). In tussocks or moss.

Ten examples, six taken by that keen observer, F. E. Wilson, differ from the species determined by us as *C. scabrosa* Reitt. in the slightly wider form, the even more roughly scabrous clothing, and the uneven surface of the elytra. Holotype in Coll. Wilson.

CEBIA (?) RUFONOTATA, n. sp.

Oblong; head and disk of pronotum opaque black, elytra black with red markings; foliate margins of prothorax, underside and appendages red.

*Head* subquadrate, clypeus rounded, sides straight, surface with recumbent white scaly hairs. Eyes prominent; antennae: basal segment hidden, 2 stout, 10–11 clavate, 11 smaller and narrower than 10. *Prothorax* very lightly bisinuate, medial region and angles feebly advanced, the latter subacute (blunt at tips); base widely but little produced, posterior angles subrectangular, sides nearly straight, foliate margins moderately wide, extreme border serrulate; disk convex, uniformly and densely granulose. *Elytra* rather wider than prothorax at base, sides nearly straight, a little divergent to behind middle; seriate-punctate, the seriate punctures moderately large and separated by light transverse ridges, the series separated by narrow longitudinal intervals; the red markings as follows: four equidistant, medial, patches—basal, medial, post-medial and apical; half-way between these and sides three more, humeral, premedial and postmedial; extreme border with line of short bristles. *Dim.*—2 mm. long.

*Hab.*—Swan River (Lea).

Two examples in the South Australian Museum must, we think, be referred to this genus. Holotype in the South Australian Museum.

NEOTRICHUS ACANTHACOLLIS, n. sp. Plate ix, fig. 15.

Elongate, parallel; opaque black, antennae dark red.

*Head* subquadrate, granulose, clypeus truncate, sides with a row of small blunt scales, terminating at the antennal orbits, and behind the eyes in triangular teeth, eyes prominent; antennae: basal segment hidden, 2 stout, 3–9 moniliform, 10–11 forming a compact club. *Prothorax*: apex irregularly produced over head and sub-bilobed from the extension of two divergent ridges, base rounded, sides widening from base to front angles, strongly so near front, margins denticulate with row of scales extending to the two anterior ridges, basal half with strong medial depression; general surface strongly granulate, transversely rugose near base. *Elytra* parallel, basal third depressed, more convex behind this; seriate-punctate, the intervals with rows of minute tubercles, becoming spicules on lateral outline. Tibiae also with serrulate edges. *Dim.*—3 mm. long.

*Hab.*—N. S. Wales: Springwood, Blue Mts. (A. Smith).

A narrow species with head and thorax suggestive of *Acantholophus* (Curculionidae). A single example given to us by Mr. J. Armstrong. Holotype in Coll. Carter.

## COLOBICUS Latr.

*Colobicus parilis* Pasc.—This species has a wide dispersion in northern Australia. We have examples from Port Darwin, Cairns, Townsville and other parts of N. Queensland; also from Moa Island (Torres Str.) and Honolulu (Hawaii). Arrow records it from Damma Is., Ceram, Mysol, Timor, Lombok, Batchian, Borneo, Andaman Is., Penang, Assam and Hong Kong.

## ABLABUS Broun.

We have before us examples of all the recorded Australian species of this genus, to which three new species are added. An example of *Ditoma villosa* Lea has been compared with type and found to belong to this genus. The species may be tabulated as follows:

1. Sides of prothorax entire .....	<i>integricollis</i> , n. sp.	2
Sides of prothorax otherwise .....		2
2. Sides of prothorax lobate .....		3
Sides of prothorax spinose .....		5
Sides of prothorax serrulate .....		6
3. Colour red with dark markings .....		4
Colour black, sides of prothorax trilobate .....	<i>tuberculatus</i> , n. sp.	
4. Sides of prothorax lobate anteriorly, posterior part serrate .....		
.....	<i>pulcher</i> Blkb., Pl. ix, fig. 19	
Sides of prothorax bilobate, with medial tooth .....	<i>mimus</i> , n. sp.	
5. Sides trispinose, anterior spine sublobate; glabrous .....	<i>blackburni</i> Grouv.	
Sides multispinose (about 9); surface pilose .....	<i>villosus</i> Lea	
6. Colour black; sides coarsely serrate .....	<i>obscurus</i> Blkb.	
Colour red; sides very finely serrulate .....	<i>nivicola</i> Blkb.	

## ABLABUS INTEGRICOLLIS, n. sp. Plate ix, fig. 21.

Ovate, convex; dark brown, appendages red.

*Head*: clypeus arcuate, sides with wide triangular lobe, slightly obliquely raised, in front of eyes; surface minutely granulose, eyes round and prominent; antennae with basal segments narrower than usual, 3-9 moniliform, 9 larger than 8, 10-11 forming a stout club. *Prothorax*: apex strongly advanced in middle and slightly raised over head, angles strongly advanced and acute, widest near base, sides widely rounded, foliate margins wide, border entire, hind angles quite rounded off; base less strongly bisinuate than usual. Disk raised by two undulate ridges, irregularly narrowed towards apex and base and forming an oval depression in middle, and a smaller oval at base, divided from medial oval by transverse ridge. Whole surface finely granulose. *Scutellum* transversely triangular. *Elytra* as wide as prothorax at its widest, ovate, with narrow horizontal margin, considerably widened at shoulders and at apex, apices separately rounded; disk with three rows of elongate nodules, the exterior of these consisting of two, the two inner ones with about three in each, besides smaller tubercles at apex; whole surface with series of larger granules and some undefined punctures. *Dim.*—4 mm. long.

*Hab.*—Tasmania: Hobart (in British Museum).

A single example is amongst those sent for examination. Holotype in the British Museum of Natural History.

## ABLABUS MIMUS, n. sp. Plate ix, fig. 17.

Short, ovate, convex; red, base of head black.

*Head* widened in front of eyes, clypeus arcuate, forehead bipustulate, surface sparsely clad with short white hair; antennae: basal segment hidden, 2 stout, 3-9 small and close, 10-11 forming a stout club. *Prothorax* very uneven and convex, medial part of apex sub-bilobed through the extension of discal crest,



front angles well advanced, foliate margins in three parts, (1) a wide anterior, securiform lobe, its border lightly triramose, (2) a medial triangular tooth, (3) a short, narrow, posterior area with serrate border and a small rectangular hind angle; the raised disk chiefly consisting of a medial depression bounded by undulate ridges, these meeting near base and again diverging to form a small triangle at base; surface finely granulose and sparsely pubescent. *Elytra* considerably wider than prothorax at base, margins strongly serrate, apices divergent and sharply angulate; disk convex (concealing narrow margin, except near apex), with ridges and tubercles. Of the former the more prominent enclose a pentagonal area at base; small ridges at shoulders; of the tubercles, four elongate ones on the 2nd interval, two at middle and two on apical declivity; exterior to these about eight conical tubercles in alternating rows of four. General surface with series of large, round punctures. *Dim.*—2-2½ mm. long.

*Hab.*—N. Queensland: Cairns (Ferguson Coll., Canberra Museum).

Two carded examples form a curious mimic of *A. pulcher* Blkb. The chief distinctions are: (1) size much smaller—about half as long, (2) foliate margins with anterior lobe itself triramose at margin—entire in *A. pulcher*, (3) discal ridges of pronotum, also ridges and pustules of elytra, similar in pattern but much more strongly raised and occupying a relatively greater area than in *A. pulcher*. Holotype in Canberra Museum.

ABLABUS TUBERCULATUS, n. sp. Plate ix, fig. 18.

Oval, convex; subnitid black, the tarsi red, a fringe of white hair at apex of prosternum and along femora, elytral tubercles capped with reddish hair.

*Head*: clypeus rounded, hollowed within, sides widened and raised into a lobe in front of eyes, two nodules near base, eyes round and prominent, surface strongly granulose; antennal segments 1-2 very stout, 3-9 submoniliform, 3 rather longer than 4, 9 larger than 8, 10-11 forming a stout club. *Prothorax*: apex with medial lobe advanced and strongly raised, with a slightly undulate outline, angles also strongly advanced and acute, foliate sides trilobate, the first largest, hatchet-shaped, the medial widely rounded with a horizontal base, the third lobe (much the smallest) forming a wide triangular hind angle; base with medial lobe widely rounded and produced backward. Disk strongly raised by two undulate ridges, starting from the anterior lobe, rising to a tubercle midway, thence narrowing and meeting near base to bifurcate again, forming a small triangle at base; medial area depressed, forming an oval between tubercles and front lobe; whole surface coarsely granulose. *Scutellum* subcircular. *Elytra* as wide as prothorax at its widest (the middle); ovate, very convex, each with three strong tubercles near base, the humeral and the innermost of these forming short ridges to the basal border, the middle one smaller and conical; these generally capped with a tuft of short, reddish hair; the rest of elytra with three rows of large tubercles (here and there showing traces of the hairy cap), the inner two rows containing three each, the exterior (forming the margin as seen from above—the real margin hidden) containing six at least, smaller tubercles on apical declivity; interspaces with closely-set, rounded, large granules. *Underside* finely granulose, tibiae with a short terminal spine, tarsal segments short and subequal. *Dim.*—3-4 mm. long.

*Hab.*—Tasmania: Frankford and Wilmot (A. M. Lea).

Six examples in the South Australian Museum show a very distinct member of the genus, both by its sombre colour and striking sculpture. Holotype in the S. Australian Museum.

## ORTHO CERINI.

ORTHO CERUS Latr. (*Sarrotrium* Ill.).

*O. (Sarrotrium) australis* Blkb. is the only known Australian species of this genus. Four examples have been examined—three from the South Australian Museum, labelled Hobart and Forest Reefs, N.S.W. (Lea), N.S.W. (in Blackburn's handwriting, probably co-type), and one in the National Museum, from Mt. Wilson, N.S.W. (Carter). The "bright red" fascia, noted by the author, fades to a dull, inconspicuous brown. It is fantastically like *Latometus pubescens* Er. (*Elasticus crassicornis* Pasc.), so that a close examination of the tarsi is necessary to distinguish them, though there is also a slight difference of elytral sculpture. This similarity is carried even to the post-ocular tooth of the pronotum.

## EPISTRANUS TIBIALIS, n. sp. Plate ix, fig. 22.

Oval, very convex; subnitid black, depressed areas brown.

*Head*: labrum prominent, clypeus subtruncate (lightly incurved at middle), hinder half of head with wide lateral lobe, partly concealing eyes, surface roughly granulate; antennae rather long, segment 1 very wide, 2 elongate, piriform, 3 intermediate in size between 2 and 4, 4-9 subequal moniliform, 10-11 forming a loose club. *Prothorax* very wide and convex, apex with strongly raised medial lobe produced over head, its margins serrate and ciliate, the widely arched and serrated foliate margins on a lower plane, anterior angles dentate, sides sinuate near base, their border ciliate, posterior angles obtuse, base with discal part produced backwards. Disk with two prominent ridges throughout, formed by rows of close pustules, the ridges diverging anteriorly, a second and sinuate row of pustules forming external ridge of discal area. *Scutellum* wanting. *Elytra* strongly convex, little longer than combined head and thorax, and as wide as the latter, extreme border coarsely serrate, each tooth with a single scale-like cilia; each with four irregular rows of rounded pustules, the sutural rows diverging at base and terminating in larger pustules, corresponding with prothoracic ridges, a second larger pair of pustules terminating the 3rd row; whole surface coarsely rugose-punctate, with many large foveate punctures. All tibiae ciliate, with wide triangular lobe on external edges and fitted with grooves for reception of tarsi; without apical spur. *Underside* remarkable for raised medial area of head, prosternum and intercoxal region, leaving deep lateral hollows. On head a deep antennal groove, the wide lateral hollow of prosternum receiving the apical part of antennae and the anterior legs, intermediate and post tibiae similarly received into hollows behind coxae. All coxae rather widely separated, the post coxae more widely than the others. Front coxae closed. Apical segment of palpi elongate-ovate, mentum transverse, subrectangular, with rounded angles. *Dim.*— $4 \times 1\frac{1}{2}$  mm.

*Hab.*—Victoria: Lakes Entrance (F. E. Wilson).

A single ♂ (aedeagus exposed) of this remarkable insect was taken by sifting leaf refuse. It follows closely Broun's diagnosis of *Epistranus*, a genus placed under Coxelini, which is scarcely consistent with Grouvelle's tabulation of that group "cavités des hanches antérieures en partie ouvertes" (*Soc. Ent. Fr.*, 1908, p. 398). Holotype in Coll. Wilson.

*Note.*—No mention of a scutellum occurs in Sharp's generic diagnosis, nor in the descriptions of the five New Zealand species in Broun's excellent manual.

## PYCNOMERINI.

We have followed Pascoe in placing the species with 11-segmented antennae under *Penthetispa*. Possibly Blackburn was technically correct in stating that

these formed the 1st group of Erichson's genus. Yet the distinction deserves a special name, and time and custom are in favour of this retention of *Penthelispa* for the known Australian species. Of the nine names only four, we think, will stand, i.e., *fuliginosa* Er., *interstitialis* Blkb., *blackburni* Hetschko, and *secuta* Pasc. We do not know the second of these; the other three may be tabulated thus:

*Table of Penthelispa Pasc.*

1. Surface opaque .....	2
Surface nitid .....	<i>secuta</i> Pasc.
2. Elytral intervals flat and clearly punctate .....	<i>fuliginosa</i> Er.
Elytral intervals convex and not clearly punctate .....	<i>blackburni</i> Hetsch.

Synonymy:

*P. fuliginosa* Er. = *obscura* Pasc. = *robusticollis* Blkb. (fide K. G. Blair).

*P. blackburni* Hetsch. = *sulcicollis* Blkb. (nom. praeocc.).

*P. secuta* Pasc. = *polita* Lea = *picea* Lea.

*P. secuta* is very widely distributed and variable in size and colour. *P. robusticollis* Blkb. alone of the Australian species has been freakishly placed under *Pycnomerus* in the Junk Catalogue.

*Gemphylodes tmetus* Oll. (misspelt 'tinctus' in the Junk Catalogue), described from Lord Howe Island, is not rare on the mainland of Australia. [I have an example from Dorrigo, N.S.W., and another from Millaa Millaa, N. Queensland.—H.J.C.]

*Todima* Grouv.—The four species recorded are before us and may be tabulated as follows:

1. Prothorax widened anteriorly .....	<i>fulvicincta</i> Elst.
Prothorax not widened anteriorly .....	2
2. Upper surface concolorous (dark) .....	<i>fusca</i> Grouv.
Upper surface bicolorous .....	3
3. Sides of prothorax and elytra yellow, seriate punctures small .....	<i>lateralis</i> Blkb.
Elytra variably yellow, seriate punctures large .....	<i>rufula</i> Grouv.

But for the striking difference in the size of the seriate punctures, at least in the medial area, the last two species might be confused, since the colour seems variable. My examples are localized as follows: *fulvicincta* Elst. (Mt. Remarkable, South Australia), *fusca* Grouv. (Allyn River, N.S.W., and Mt. Barker, W.A.), *lateralis* Blkb. (Myponga and other parts of S. Aust., Macleay River, N.S.W.), *rufula* Grouv. (Beverley, W.A., and N. Queensland).

*Meryx* Latr.—The two species of this genus are so well known as to need little comment, with the synonymy:

*M. rugosa* Latr. = *areolata* (*Rhyssopera*) Pasc. = *illota* (*Rhyssopera*) Pasc.

DERETAPHIRUS Newm.

The insects of this genus are moderately common, very widely distributed over the continent, variable in size, and in colour from immaturity. It has been difficult to initiate a clear tabulation of the genus since the genotype, *D. fossus* Newm., is apparently missing. Of *D. fossus* Mr. K. G. Blair writes as follows:

"An example determined by C. O. Waterhouse, compared with the common *D. ignarus* Pasc., has the pronotum more cordiform, with the anterior angle clearly seen from above, the pronotal sulcus broader, almost double (wedge-shaped), elytra with 1st and 2nd intervals flat, 3rd feebly carinate (rather a row of shining points than a carina, except at apex), 4th flat, 5th carinate, 6th traces of a carina near base and beyond middle, 7th carinate. *D. ignarus* Pasc. has the elytra dull, with all intervals, except 1st and 2nd, more or less carinate, 4th and 6th less so and obsolete behind. The example determined as *fossus* Newm. corresponds with Blackburn's type of *cordicollis*."

An example, labelled '*fossus*' by Blackburn in the South Australian Museum, is clearly *ignarus* Pasc.

*D. erichsoni* Newm. and *D. piceus* Germ. are easily recognized, the former by its cylindric form and ill-defined pronotal sulcus, the latter by its fine pronotal sculpture.

In 1862 Pascoe described *bakewelli*, *colydioides*, *ignarus* and *viduatus*.

*bakewelli* = *piceus* Germ.—Pascoe himself only distinguished these in his table by colour and size.

*colydioides* Pasc. is probably a small *viduatus* Pasc. The other two are well known and widely distributed. *D. pascoei* Macl. is clearly identical with *ignarus* Pasc.

In 1898, Lea described *analisis*, *parviceps*, *puncticollis* and *xanthorrhoeae*. We have not been able to identify *parviceps* from Western Australia. The other three are quite distinct: *analisis* by its large size, nitid and scarcely punctate pronotum (found at Dorrigo, Queensland National Park and Southern Queensland); *puncticollis* is rare in collections, from the interior of New South Wales and South Australia. Its pronotum is crowded with coarse punctures, its sulcus only vaguely defined; *xanthorrhoeae* Lea is from Western Australia, with a pronotal sculpture intermediate between that of *piceus* Germ. and *ignarus* (nearer the former than the latter).

In 1903, Blackburn described eight species, *aequaliceps*, *cordicollis*, *cribriceps*, *gracilis*, *iridescens*, *popularis*, *sparsiceps* and *thoracicus*, the types being in the British Museum: *cordicollis* = *fossus* Newm. (as above); *thoracicus* = *piceus* Germ.; *sparsiceps* = ? *viduatus* Pasc.

[I have hypothetically identified *aequaliceps* and *cribriceps* and have satisfactorily verified *gracilis* and *popularis*. My example of *popularis* (compared with type) came from Roma, Q. In the description the author says, "not sure of exact habitat".—H.J.C.]

There is a cotype of *sparsiceps* among those sent from the South Australian Museum. It is not in good condition, but seems indistinguishable from *viduatus* Pasc. Mr. Elston has courteously sent his type of *D. bucculentus* for examination. It is identical with *puncticollis* Lea, of which an example is in the Ferguson collection at Canberra, with the name label in Lea's well-known handwriting. The two descriptions by Lea and Elston respectively are almost identical in essential characters. Descriptions of two new species are appended.

Table of *Deretaphrus* Newm.

1. Pronotum without medial sulcus .....	<i>incultus</i> , n. sp.
Pronotum with vaguely defined sulcus .....	2
Pronotum with well defined sulcus .....	3
2. Form cylindric, elytral costae granulose .....	<i>erichsoni</i> Newm.
Form explanate, elytral costae entire .....	<i>puncticollis</i> Lea
3. Pronotal sculpture very fine .....	4
Pronotal sculpture moderately fine .....	5
Pronotal sculpture coarse .....	6
4. Elytral intervals rounded, not carinate .....	<i>analisis</i> Lea
Third and fifth intervals carinate .....	<i>piceus</i> Germ.
5. Elytral intervals 3, 4, 5, more or less carinate .....	<i>xanthorrhoeae</i> Lea
Elytral intervals 3, 4, 5, flat or nearly so .....	<i>gracilis</i> Blkb.
6. Pronotal punctures contiguous (alveolate) .....	<i>alveolatus</i> , n. sp.
Pronotal punctures not contiguous .....	7
7. Elytra each with, at least, 3 well-raised carinae .....	8
Elytra each with 4 interior intervals flat, or nearly so .....	9
8. Anterior angles of pronotum well defined .....	<i>fossus</i> Newm.
Anterior angles of pronotum rounded off and depressed .....	<i>ignarus</i> Pasc.

9. Head impressed or sulcate ..... 10  
 Head evenly convex ..... 11  
 10. Clypeus longitudinally sulcate ..... *viduatus* Pasc.  
 Clypeus impressed ..... *popularis* Blkb.  
 11. Anterior angles of prothorax defined ..... *aequaliceps* Blkb.  
 Anterior angles of prothorax rounded off ..... *cribriceps* Blkb.

Not included in table, *parviceps* Lea.

*Synonymy*.—*D. fossus* Newm. = *cordicollis* Blkb.

*D. piceus* Germ. = *bakewelli* Pasc. = *thoracicus* Blkb.

*D. viduatus* Pasc. = *colydioides* Pasc. = *sparsiceps* Blkb.

*D. ignarus* Pasc. = *pascoei* Macl.

*D. puncticollis* Lea = *bucculentus* Elst.

*D. gracilis* Blkb. = *iridescens* Blkb.

#### DERETAPHRUS ALVEOLATUS, n. sp.

Elongate, subcylindric; head subnitid, pronotum and elytra opaque black, antennae, legs and underside red.

*Head*: clypeus rounded, its outline entire, closely punctate on forehead, more sparsely and finely on epistoma, eyes clearly evident from above, antennae unusually stout, segment 1 bulbous, 2 beadlike, 3–8 closely set, 9–11 strongly transverse, 9 and 10 wider than 11. *Prothorax* longer than wide (2 × 1.6 mm.) anterior angles depressed and rounded off, sides lightly narrowed to basal third, here feebly sinuate and subparallel to the widely obtuse hind angle, base arcuately produced behind; whole surface alveolate-punctate, with rather small cell-like punctures closely fitted together, here and there confluent, a medial elongate area lightly flattened, a short, wide, shallow sulcus near base. *Scutellum* circular. *Elytra* cylindric, as wide as prothorax at its widest and 2½ times its length, striate-punctate, seriate punctures small and close near suture, larger and more distant elsewhere, two sutural intervals depressed and almost imperceptibly punctate, 3–7 finely carinate and impunctate, the carinae more marked at base and apex. *Dim.*—8 × 1.6 mm.

*Hab.*—Western Australia: Cue (H. W. Brown).

A single example is among the Colydiidae sent from the South Australian Museum and is so distinct as to be worth naming, the delicate reticulation of the pronotum being in strong contrast with the coarse, close punctures of *D. puncticollis* Lea. Holotype in the South Australian Museum.

#### DERETAPHRUS INCULTUS, n. sp.

Depressed; black, elytra brown.

*Head* coarsely punctate. *Prothorax* subcordate, rather flat, anterior angles widely obtuse and vaguely defined, sides narrowed from apex to base, only slightly sinuate behind, base lightly excised near angles, these obtuse, with a minute tooth pointing outwards. Disk rather closely and coarsely punctate, without a sign of medial sulcus; the punctures more sparse towards the centro-basal area, dense towards sides. *Elytra* wider than prothorax at base, epipleural fold forming a light dentate ridge at humeri; strongly striate-punctate, the striae punctures close and round, intervals lightly convex and clearly punctulate; 3rd, 5th and 7th finely carinate. Underside coarsely and closely punctate; abdomen rather less coarsely than the rest. *Dim.*—8 × 2 mm.

*Hab.*—Western Australia: Coolgardie and Beverley (Du Boulay and H.J.C.), also Kellerberrin (in the S. Aust. Museum).

Four examples examined are very distinct from all described species by their entirely non-sulcate prothorax. *D. erichsoni* Newm. most nearly approaches in

this respect, but is very convex, with a characteristic elytral sculpture with granulate intervals and quite different seriate punctures. Holotype in Coll. Carter.

#### OXYLAEMUS ER.

*Oxylaemus leae* Grouv.—An example of this cylindric species is in the collection of F. E. Wilson from Warburton, Victoria. It was described from Tasmania.

#### METOPRESTES STRIGICOLLIS, n. sp. Plate ix, fig. 24.

Subcylindric; subopaque, dark chestnut-brown, antennae and tarsi red.

*Head* slightly concave, finely and densely punctate, with short red pubescence; antennae rather short, two basal segments tumid, biclavate, 10–11 forming a large round club. *Prothorax* ovate, apex arcuately advanced in middle, rounded and recessed at sides, all angles widely rounded off, base truncate, sides a little sinuately narrowed behind; disk with fine longitudinal strigae, coarser near middle, finer near sides. *Scutellum* ovate. *Elytra* wider than prothorax, sides parallel, each with three well-raised carinae, the lateral and sutural margins also, but more narrowly, carinate; the depressed intervals with irregular rows (about 3) of round punctures; *underside* glabrous, closely punctate. *Tibiae* widened at apex, *post-tarsi* with 1st segment nearly as long as the rest combined. *Dim.*— $4\frac{1}{2}$  mm. long.

*Hab.*—N. S. Wales: Sydney (Macleay Museum).

A single example in the Macleay Collection, labelled as above, is clearly separated from Pascoe's three species, *M. tubulus* Shp. and *M. indicus* Grouv. by the sculpture of the pronotum, which is nowhere punctate. Holotype in the Macleay Museum.

#### BOTHRIDERES ER.

The insects of this genus are amongst the commonest of Australian Coleoptera, subject to extreme variation in size and colour. This has led to great redundancy in nomenclature, though much of this could have been obviated by a more careful identification by later authors of the earlier recorded species. Twenty-three names occur, for which we can find only seven distinct species. The genus is also widely found in Africa, America, Ceylon, New Guinea, Philippines, Formosa, New Zealand and New Caledonia, one species occurring in Spain and the south of France.

In 1842 Newman described *illusus*, *puteus* and *vittatus*. Lea seems to have known *vittatus*, but both Macleay and Lea redescribed *puteus* as *rectangularis* and *opacus* respectively. Blackburn explicitly states, "I am not acquainted with *B. illusus* Newm.", while three of his four species are, we consider, repetitions of Newman's and Pascoe's species, e.g., an example of *variabilis* Blkb., labelled cotype, in the South Australian Museum is identical with one sent from the British Museum as *illusus* Newm. The identity of *B. anaglypticus* Germ. with *puteus* Newm. is clear from its description, and not, as Lea suggested, with *mastersi* Macl. The words "confertim et pro parte rugoso-punctatus" of the thorax and "opaca" of the elytra cannot apply to *mastersi*, but do apply to *puteus*.

With regard to Pascoe's species, Arrow (*Ann. Mag. Nat. Hist.*, 1909) has already pointed out that four of these are redundant or mere variations. We consider further that *taeniatus* Pasc. is a variety of *equinus* Pasc., only separated in his table by colour.

Macleay's two names, *pascoei* and *kreffti*, again represent slightly different forms of the same common species, while a cotype of *intermedius* Lea is a typical *equinus* Pasc.

*B. illusus* Newm., *lobatus* Pasc. and *tibialis* Blkb. have been very difficult to clarify by constant characters. After an exhaustive examination of long series, our conclusions lead us to consider these three names as of two distinct species characterized as follows:

*illusus* Newm.

*Dim.*—5–7 mm. long.

*Colour.*—Opaque brown.

*Prothorax.*—Margins with wide, but distinct angulation at middle, disk with coarse, subconfluent punctures longitudinally rugose in places.

A smooth medial line connecting a vague premedial depression with a small fovea near base, 2 short subcostate impressions behind this fovea.

*Elytral* intervals 3, 5, 7 sharply costate, 2, 4 flat, not visibly punctate.

*Front tibiae* longer, little widened at apex.

*Prosternum* moderately punctate.

*lobatus* Pasc.; *tibialis* Blkb.

*Dim.*—2–5½ mm. long.

*Colour.*—Subnitid, piceous to red.

*Prothorax.*—Margins generally without, or with vague angulation, disk with finer longitudinal system of punctures.

No smooth line; premedial and post-medial depressions superficial, sometimes obsolete; no prebasal costae.

*Elytral* interval 3 feebly raised, 5, 7 costate. All intervals clearly punctate.

*Front tibiae* shorter, strongly widened at apex.

*Prosternum* densely, subconfluently punctate.

*B. ustulatus* Lea is a good species found widely in the interior of New South Wales and Victoria as well as in Western Australia.

A single example sent from the British Museum, bearing a locality label 'Champion Bay' and a MS. name by Pascoe appears to be an undescribed species. Its characters suggest a relation with *B. bifossatus* Grouv. from New Caledonia. We think it is well to withhold this from publication until further material can be examined and its separation from Grouvelle's species maintained. The Australian species may be thus tabulated:

*Bothrideres* Er.

- |   |                       |
|---|-----------------------|
| 1. Pronotum with a single elongate depression .....                             | 2                     |
| Pronotum otherwise .....  | 3                     |
| 2. Opaque brown, prothorax coarsely punctate .....                              | <i>puteus</i> Newm.   |
| Nitid reddish, prothorax finely punctate .....                                  | <i>mastersi</i> Macl. |
| 3. Prothorax convex .....   | 4                     |
| Prothorax flat .....  | 6                     |
| 4. Sides of prothorax angulate, disk coarsely rugose-punctate .....             | <i>illusus</i> Newm.  |
| Sides of prothorax not, or vaguely angulate, discal punctures less coarse ..... | 5                     |
| 5. Pronotal sculpture longitudinal, front tibiae much widened .....             | <i>lobatus</i> Pasc.  |
| Pronotal sculpture not longitudinal, tibiae normal .....                        | <i>ustulatus</i> Lea  |
| 6. Elytra reddish or vittate, prothoracic margins angulate .....                | <i>vittatus</i> Newm. |
| Elytra opaque brown, prothoracic margins not angulate .....                     | <i>equinus</i> Pasc.  |

*Synonymy.*—*B. puteus* Newm. = *anagypticus* Germ. = *rectangularis* Macl. = *opacus* Lea.

*B. illusus* Newm. = *variabilis* Blkb.

*B. vittatus* Newm. = *suturatis* Macl. = *merus* Pasc. = *musivus* Pasc. = *costatus* Blkb. = *victoriensis* Blkb.

*B. equinus* Pasc. = *taeniatus* Pasc. = *pascoei* Macl. = *kreffti* Macl. = *intermedius* Lea.

*B. lobatus* Pasc. = *servus* Pasc. = *versutus* Pasc. = *tibialis* Blkb. = *aberrans* Lea.

*N.B.*—The variation in size is well exemplified in *B. vittatus* Newm. Examples before us vary from 6 mm. to 2 mm. long.

*Machlotes (Erotylathris) costatus* Shp.—An example of this Japanese insect, labelled 'Queensland', was among the British Museum Colydiidae sent. Other examples are in the Macleay and South Australian Museums, both from Cairns. From their descriptions it is difficult to separate this from *Machlotes porcatus* Pasc. from Penang, but the testimony of both Sharp and Grouvelle stand to the contrary.

"*Erotylathris costatus* Shp. is a *Machlotes*, very near *porcatus* Pasc., but differs in its somewhat more elongate form and more closely punctured elytral series; in *porcatus* there are about 9 in the anterior half of the 2nd interval, whereas *costatus* has about 12. Sharp appears to have misunderstood *Erotylathris* when putting his species into it—he was obviously uncertain about it." (Note by Mr. K. G. Blair.)

*Leptoglyphus foreifrons* Grouv. is another of the British Museum specimens examined. This bears the label 'Port Darwin', while another example carries labels 'cotype' and 'Nilgiri Hills, India'.

*Dastarcus* Walk. (= *Pathodermus* Fairm.).—There appears to be little doubt as to the synonymy of *D. decorus* Reitt. = *D. (Pathodermus) rufosquameus* Fairm., a common species in N. Queensland, also found in New Guinea and Malacca.

*D. confinis* Pasc. is chiefly distinguished from the former by its much smaller size (9 mm. instead of 14 mm. long).

Two examples in the Macleay Museum, from Hall Sound, New Guinea, are probably *D. vetustus* Pasc. and *D. pusillus* Pasc., respectively 7 mm. and 4½ mm. long; the latter distinguished, as the author states, by its "peaked" elytra. We have not enough material to attempt a tabulation; moreover, the scales and fascicles on the upper surface of these insects are readily abraded, so that worn examples present a very different aspect from fresh ones.

#### CERYLON Latr.

Only one species, *C. alienigenum* Blkb., has, so far, been described from Australia. The description is largely a comparison with a European species, *C. ferrugineum* Steph.—a method very unhelpful to Australian students. Moreover, a mistaken determination has occurred in an example sent from the South Australian Museum, labelled *C. alienigenum* Blkb. [not, I think, in Blackburn's handwriting—H.J.C.]. This example is clearly *Ocholissa nigricollis* Grouv., as figured by that author. Mr. Blair has now courteously sent an example of *C. ferrugineum* Steph., which enables us to determine, with a query, *C. alienigenum* Blkb. for a species taken by one of us at Otford, and by Lea at Richmond River, N.S.W., and possibly some half-dozen examples taken by Lea at Tambourine Mountain, S. Queensland. It must be a close ally of *C. tibialis* Shp. and *C. pusillum* Pasc.

The following tabulation, at least, separates the 5 species before us. *C. humeridens* Grouv. is hypothetically determined from description. This seems a better course than adding further to a possible synonymy, the distribution of small Colydiidae making such determination possibly correct.

#### *Cerylon* Latr.

- |   |                            |
|---|----------------------------|
| 1. Colour black .....                               | <i>nigrescens</i> , n. sp. |
| Colour red .....                                    | 2                          |
| 2. More or less pilose .....                        | 3                          |
| Glabrous .....                                      | 4                          |
| 3. Form ovate, hairs long .....                     | <i>longipilis</i> , n. sp. |
| Form oblong, finely pilose .....                    | ? <i>humeridens</i> Grouv. |
| 4. Form oblong-ovate, elytra widest at middle ..... | <i>parviceps</i> , n. sp.  |
| Form oblong, subparallel .....                      | ? <i>alienigenum</i> Blkb. |



*Philothermus* Aube.—Two species of this genus are before us. Of these, 12 examples from Tasmania (A. M. Lea) exactly correspond with 4 examples sent from the British Museum. Of these four, two are labelled 'Picton, New Zealand, taken by Helms', with the name-label '*Philothermus nitidus* Shrp'. The other two, labelled 'Hobart', are, we consider, identical with the New Zealand examples. This is an interesting fact of distribution, the insects common to Australia and New Zealand being few.

A single specimen of a *Philothermus* from Glen Innes, N.S.W., also taken by Lea, has been hypothetically determined as *P. sanguineus* Broun. from description.

For the sake of Australian collectors a few details are given of these two species.

*P. nitidus* Shrp.—Oblong-navicular, elytra sharply narrowed behind. Form rather wide, elytra irregularly striate-punctate, antennal club, 10th cup-shaped, 11th ovoid; 2–2½ mm. long.

? *P. sanguineus* Broun.—Narrowly oblong, elytra deeply striate, with half-concealed punctures, antennal club with 11 little larger than 10; 1½ mm. long.

Both species are of a deep-red colour, the pronotum coarsely, sparsely punctate.

*Euxestinae*.—This group is included in the Colydiidae by Hetschko (Junk Cat.). The late A. M. Lea considered *Euxestus* as belonging to the Erotylidae. We have had no opportunity of studying his types and omit this group from discussion.

*Ocholissa* Pasc.—We have mentioned above the example sent as *Cerylon alienigenum* Blkb. Numerous examples from Cairns are in the various collections examined. The majority of these are clearly *O. humeralis* Fairm., but a few have the elytra wholly black, without the yellow shoulder spot. This is apparently the variety *atra* Grouv. A few others (including the mis-labelled example) have the elytra more or less wholly pale, which is, almost certainly, the form named *O. nigricollis* Grouv. We think, therefore, the following synonymy is established: *O. humeralis* Frm.: Var. 1. *atra* Grouv.; Var. 2. *nigricollis* Grouv. The distribution, given in Junk, is Madagascar, E. Africa, E. Indies, Ceylon, Borneo, Batchian, Tahiti; to which North Australia must now be added.

*Ocholissa leai* Grouv.—Three examples are in the Lea Coll. from Mt. Wellington, Tasmania, also one labelled Sydney, N.S.W.

CERYLON LONGIPILIS, n. sp. Plate ix, fig. 14.

Short, ovate; nitid dark red, antennae and legs pale red, antennal club testaceous.

*Head* with a few large distant punctures, eyes large and prominent, antennal basal segment very tumid, about twice as long as 2, 2 and 3 subequal, each longer than 4, 4–8 small and closely set, 9 larger than 8, 10–11 forming a large ovoid club, strongly pubescent and elongate towards apex. *Prothorax* strongly transverse, apex arcuate, front angles advanced but obtusely blunted; base subtruncate, its angles sharply rectangular, sides lightly rounded, arcuately narrowed in front, horizontal margin narrow, its border entire; disk very coarsely, sparsely and rather irregularly punctate, without sign of medial line, basal foveae large and deep. *Scutellum* large, triangular, with one or two punctures. *Elytra* rather convex and oval, of same width as prothorax at base, humeri with a small projection; striate-punctate, the striae shallow, the punctures coarse and irregular in size, intervals in places subconvex, with a single line of fine punctures, with

sparse, pale, upright hairs much longer than on prothorax. Underside everywhere coarsely punctate. Tibiae strongly and roundly widened. *Dim.*— $1\frac{3}{4}$  mm. long.

*Hab.*—S. Queensland: Tambourine Mountain (A. M. Lea).

Three examples—or more correctly  $2\frac{1}{2}$ , since one example is only represented by the hinder half—are under examination. One of these is probably immature, being pale yellow in colour. On a visit to the above district in 1914, Lea did a good deal of sifting leaf refuse, in which these insects occur. It differs from other species seen by us in the sparse, long hairs of the upper surface, the coarse, not close punctures and the dentate humeri. It must be near *C. setulosum* Champ. (from Assam), and *C. humeridens* Grouv. (from India). The following details in their respective descriptions point to distinction: “antennae 10–11 fused into a larve oval club . . . prothorax closely punctate . . . smooth medial line” of the former species and “prothorace . . . disco basin versus utrinque subimpresso . . . elytra . . . suturo basin versus recesso” in the latter. In each case only a single example is known, so that the possibility of synonymy of all three species cannot be dismissed. Holotype in the South Australian Museum.

*N.B.*—A single example from Cairns (N.Q.) before us must be still closer to *C. humeridens* Grouv., so that at present it cannot be described as distinct. It differs clearly from *C. longipilis* by flatter form, shorter pilosity, and the more regularly and deeply striate-punctate elytra.

CERYLON NIGRESCENS, n. sp.

Subconvex, oblong; subnitid black above, the narrow margin of pronotum and elytra, underside and appendages red.

*Head*: Clypeus rounded, eyes prominent, surface densely and finely punctate; antennae: segment 1 stout, 2 globose (beadlike), 3 twice as long as 4, 4–8 small and close, 9 larger than 8, 10 clavate and oval. *Prothorax* subquadrate, slightly widest near front, apex arcuate, anterior angles advanced but rounded, base very lightly bisinuate, sides nearly straight, arcuately narrowed in front, a narrow sulcate margin; disk rather depressed, closely, rather finely punctate, a feeble suggestion of a smooth medial line behind middle; without basal foveae. *Scutellum* transversely oval. *Elytra* of same width as prothorax at base, sides subparallel for the greater part, bluntly rounded at apex; striate-punctate, the striae well impressed, except at extreme apex, the punctures therein close, regular and of moderate size; intervals flat, each with a single row of minute punctures. Underside finely and sparsely punctate. *Femora* stout, *tibiae* little widened. *Dim.*— $2\frac{1}{4}$  mm. (approx.) long.

*Hab.*—Queensland National Park.

Two examples, sent by Mr. Hacker of the Queensland Museum, differ from all Australian *Cerylon* spp. seen, by the dark upper surface, the fine, close punctures of thorax and its straight, oblong form. We cannot make out any dentation of the humeri, the thorax being closely applied to the elytra along its whole width. Holotype in the Queensland Museum.

CERYLON PARVICEPS, n. sp. Plate ix, fig. 23.

Oblong-ovate; castaneous, very nitid and glabrous.

*Head* unusually small, straight-sided, but for the prominent eyes, clypeus lightly arcuate, finely and sparsely punctate; antennae longer and stouter than usual, 1 stout, 2 longer than 3, cupuliform; 3 slightly longer than 4, 4–8 close, 9 larger than 8, 10–11 elongate-oval, apical half pubescent. *Prothorax* subconvex, apex lightly arcuate, anterior angles wide and blunt, base very lightly bisinuate, posterior angles subrectangular, sides nearly straight on basal half, arcuately

narrowed on apical, without defined marginal area, disk finely and rather sparsely punctate, without sign of medial line, a smooth foveate depression near base on each side. *Scutellum* large, transverse, oval and punctate. *Elytra* closely applied to and of same width as prothorax, humeri with a blunt, subdentate process; lightly ovate, widest at middle, thence narrowed to apex; substriate-punctate, the sutural stria only clearly defined, punctures round and distinct, 5th interval lightly convex, the rest flat, with a few minute punctures discernible here and there. *Pro-* and *meta-sternum* rather strongly; distantly punctate, *abdomen* sparsely and finely so; *femora* very stout, *tibiae* lightly widened at apex, *fore tibiae* curved. *Dim.*—3 mm. long.

*Hab:* Launceston, Tasmania (Lea).

A single example in the Lea Coll. is distinct by the combination of red colour, with appendages and underside concolorous, stout antennae and unusually narrow head, and fine, sparse sculpture. Holotype in the South Australian Museum.

## CHECK-LIST OF THE AUSTRALIAN COLYDIIDAE.

- Bitoma angustula* Motsch ? = *parallela* Shrp.  
*costata* Macl.  
*cylindrica*, n. sp.  
*occidentalis*, n. sp.  
*puteolata*, n. sp.  
*serricollis* Pasc.  
*siccana* Pasc.  
*Synagathis kawricola*, n. gen and sp.  
*Larinotus umbilicatus*, n. sp.  
*Sparaectus elongatus* Blkb.  
*interruptus* Er.  
*leai*, n. sp.  
*productus* Reitt.  
*proximus* Blkb.  
*pustulosus* Blkb.  
*queenlandicus*, n. sp.  
*Phormesa carpentariae* Blkb.  
*caudata*, n. sp.  
*epitheca* Oil.  
*grouvellei* Blkb.  
*hilaris* Blkb.  
*lunaris* Pasc.  
*notata*, n. sp.  
*opacus* Shrp. (*Trionus*)?  
*parva* Blkb.  
*prolata* Pasc.  
*torrida* Blkb.  
*Phorminx lyrata*, n. gen. and sp.  
*Bupala australis*, n. sp.  
*fasciata*, n. sp.  
*variegata*, n. sp.  
*Pabula perforata* Blkb., n. gen.  
*bovilli* Blkb.  
*Cebia communis*, n. sp.  
*rufonotata*, n. sp.  
*scabrosa* Reitt.  
*tumulosa*, n. sp.  
*Neotrichus acanthacollis*, n. sp.  
*Colobicus parilis* Pasc.  
*Ablabus blackburni* Group.  
*integricollis*, n. sp.  
*mimus*, n. sp.  
*Ablabus nivicola* Blkb.  
*obscurus* Blkb.  
*pulcher* Blkb.  
*tuberculatus*, n. sp.  
*villosus* Lea.  
*Orthocerus australis* Blkb.  
*Epistranus tibialis*, n. sp.  
*Penthelispa blackburni* Hetsch.  
*fuliginosa* Er.  
*interstitialis* Blkb.  
*secuta* Pasc.  
*Gempylodes tmetus* Oil.  
*Todima fulvicincta* Elst.  
*fusca* Group.  
*lateralis* Blkb.  
*rufula* Group.  
*Meryx aequalis* Blkb.  
*rugosa* Latr.  
*Deretaphrus aequaliceps* Blkb.  
*alveolatus*, n. sp.  
*analis* Lea.  
*cribriceps* Blkb.  
*erichsoni* Newm.  
*fossus* Newm.  
*gracilis* Blkb.  
*ignarus* Pasc.  
*incultus*, n. sp.  
*piceus* Germ.  
*popularis* Blkb.  
*puncticollis* Lea.  
*viduatus* Pasc.  
*xanthorrhocac* Lea.  
*Oxyaemus lae* Group.  
*Metopiestes strigicollis*, n. sp.  
*Bothrideres equinus* Pasc.  
*illusus* Newm.  
*lobatus* Pasc.  
*mastersi* Macl.  
*puteus* Newm.  
*ustulatus* Lea.  
*vittatus* Newm.  
*Machlotes costatus* Shrp.  
*Leptoglyphus foveifrons* Group.  
*Dastarcus confinis* Pasc.

*Dastarcus decorus* Reitt.

*pusillus* Pasc.

*vetustus* Pasc.

*Cerylon alienigenum* Blkb.

*humericus* Grouv. ?

*longipilis*, n. sp.

*nigrescens*, n. sp.

*Cerylon parviceps*, n. sp.

*Philothermus nitidus* Shrp.

*sanguineus* Broun. ?

*Ocholissa humeralis* Fairm.

*humeralis* var. *atra* Grouv.

var. *nigricollis* Grouv.

*leai* Grouv.

#### EXPLANATION OF PLATES VIII-IX.

##### Plate viii.

1.—*Bitoma occidentalis*, n. sp.

2.—*Sparactus queenslandicus*, n. sp.

3.—*Bupalia australis*, n. sp.

4.—*Bitoma cylindrica*, n. sp.

5.—*Synagathis kauricola*, n. sp.

6.—*Sparactus leai*, n. sp.

7.—*Larinotus umbilicatus*, n. sp.

8.—*Phormesa* (?) *caudata*, n. sp.

9.—*Phorminx lyrata*, n. sp.

10.—*Bupalia variegata*, n. sp.

11.—*Phormesa notata*, n. sp.

12.—*Bitoma puteolata*, n. sp.

##### Plate ix.

13.—*Bupalia fasciata*, n. sp.

14.—*Cerylon longipilis*, n. sp.

15.—*Neotrichus acanthacollis*, n. sp.

16.—*Cebia tumulosa*, n. sp.

17.—*Ablabus mimus*, n. sp.

18.—*Ablabus tuberculatus*, n. sp.

19.—*Ablabus pulcher* Blkb.

20.—*Pabula dentata* Blkb.

21.—*Ablabus integracollis*, n. sp.

22.—*Epistranus tibialis*, n. sp.

23.—*Cerylon parviceps*, n. sp.

24.—*Metopiestes strigicollis*, n. sp.